

**ABSTRACT****IF STATEMENT HAVING AN EXPRESSION SETUP CLAUSE TO BE  
UTILIZED IN STRUCTURED ASSEMBLY LANGUAGE PROGRAMMING**

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A state machine for an assembler capable of processing structured assembly language is disclosed. The state machine for an assembler capable of processing structured assembly language IF constructs includes five states, namely, an IF state, an ELSE state, an END\_IF state, an ELSE\_IF state, and a SETUP\_IF state. In response to recognizing a SETUP\_IF clause during the IF state or the ELSE\_IF state, the process transitions to the SETUP\_IF state. In response to recognizing an ELSE\_IF clause during the SETUP\_IF state, the process transitions to the ELSE\_IF state.